

Title (en)
DIRECT INJECTION DIESEL ENGINE

Publication
EP 0475843 A3 19920603 (EN)

Application
EP 91402421 A 19910911

Priority
JP 24151390 A 19900912

Abstract (en)
[origin: EP0475843A2] In a diesel engine having a combustion chamber (5) formed by a cylinder and piston (3) where fuel is injected into the chamber (5) directly, and provided with a device whereby part of the exhaust gas is recycled into the air intake depending on the running condition of the engine, a fuel injection valve (6) is fitted to the head of the cylinder parallel to or coaxial with the cylinder axis and near the center of the combustion chamber (5). The valve lifts in two stages according to the fuel pressure so as to spray fuel evenly into the chamber, and thus promote mixing of fuel with air. Fuel injection pressure is increased by a fuel pump which supplies high pressure fuel to the injection valve (6) in synchronization with the engine revolution, and the residual pressure in the pipe which leads fuel from the fuel injection pump to the fuel injection valve (6) is kept approximately constant by a pressure equalizing valve so as to avoid a secondary fuel injection. As a result, combustion is improved when exhaust gas is recirculated, and the emission of both NOx and smoke is reduced. <IMAGE>

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F02D 21/08; F02M 45/08; F02M 59/46

IPC 8 full level
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Citation (search report)
• [Y] FR 1211371 A 19600316
• [A] US 4501140 A 19850226 - NAKAGAWA TOYOAKI [JP], et al
• [Y] PATENT ABSTRACTS OF JAPAN vol. 8, no. 224 (M - 331)<1661> 13 October 1984 (1984-10-13)

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EP0568845A1; EP1039111A3

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